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VIA UPS OVERNIGHT
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RE: Comments of Waste Management on Feasibility Study
Evergreen Manor Groundwater Contamination Site
Roscoe, Illinois

Dear Ms. Pope and Ms. Cibulskis:

Waste Management of Illinois, Inc. and Waste Management of Wisconsin, Inc. submit the following comments regarding the July 2003 Feasibility Study Report ("FS") which incorporates by reference the Groundwater Data Evaluation ("GD") and Air Sampling Reports.[1] The FS proposes Alternative 3, Monitored Natural Attenuation, at an estimated cost of $8.5 million, as the selected remedial alternative.

EXECUTIVE SUMMARY

The data show that USEPA's course of action adopted following its October 1998 EE/CA successfully addressed the potential risk posed by then-detected groundwater contamination. Due to the appropriate response action taken – namely replacement of private water supply wells with municipal water – there is no reasonable concern that the site poses a risk of harm. USEPA is to be congratulated on implementing an appropriate response strategy that eliminated the exposure pathway of concern and circumvented the delays associated with the Superfund remedial action program. The investigative data compiled subsequent to the EE/CA confirm that the groundwater contamination has declined to below the MCLs for the constituents of concern in the residential areas of the (now former) plume. The two exceedances of the MCLs detected during the April 2002 sampling included one detection in the industrial park area, and one that is an estimated, not quantified value. Regardless, the detected contamination at these two wells is projected to soon fall below the MCLs as well.

[1] Pursuant to the 30-day extension of time requested by Waste Management and granted by USEPA, the deadline for these comments was extended to September 25, 2003.

As a result, the site now poses no unacceptable risk. Not only has the groundwater exposure pathway been eliminated, there simply is no risk via vapor pathways. EPA's contractor admits that there is no correlation between the "plume" and soil vapor samples. And, soil vapor samples taken from above where the "plume" used to be are below significant levels. The only soil vapor detections at levels of concern were in areas outside the plume. Also, since the groundwater quality beneath the residences has improved to at or below MCLs, there is no further action needed for vapor sampling – as per USEPA's latest guidance.

Therefore, a true monitored natural attenuation remedy – not the $8.5 million research project proposed – is supported by the data and existing institutional controls. This is the appropriate course of action for two reasons: (1) the constituents of concern meet, or shortly will meet, the MCLs; and (2) there is no evidence of risk to human health or the environment. The recent data, as discussed below, fully support the conclusion that the site presents no substantial endangerment because there is no exposure pathway that presents a substantial likelihood that contaminants will be ingested or inhaled; and the contaminant concentrations (even assuming ingestion or inhalation) do not lead to a substantial statistical probability that disease will result. There simply is no threat of serious harm presented by the residual groundwater contamination.

A. <u>Groundwater Data – The Constituents of Concern Meet or Soon Will Meet the MCLs</u>

Weston's preferred $8.5 million alternative is unjustified and beyond extravagant in light of the extensive data already gathered regarding all aspects of the site and the contamination. The bottom line is that, with the April 2002 data collection, **<u>ONLY</u>** two exceedances of the MCLs for TCE and PCE (5 ppb) are identified: (1) MW-103S at 5.9 ppb PCE, which is estimated to decline to below the MCL in approximately three years (mid-2005), and is located almost one mile from the nearest residence at Evergreen Manor and about two miles from MW-03 and (2) MW-03 at 7.2J ppb TCE, which (assuming an actual and not estimated concentration) is estimated to decline to below the MCL in approximately one and a half years (late 2003). Notably, MW-03 was installed in the "most apparent zone of contamination" based on the 2000 RI investigation. GD §C.4, p.7.

Weston rejects the "No Action" alternative and does not propose an alternative that consists of minimal additional monitoring of the natural attenuation remedy previously selected by USEPA with the 1998 EE/CA (and 1999 AOC). Furthermore Weston offers no rational explanation for why the USEPA should deviate from the course of action recommended by the 1998 EE/CA. The rejection of the "No Action" alternative is justified with the nonsensical statement that it "does not offer long-term effectiveness and permanence because no remedial action is implemented." FS §4.3.3, p.42. Monitored natural attenuation (MNA) <u>is</u> a remedial action – one that has been recognized as operational and effective at this site for over five years! The real flaw with Weston's proposed alternatives is that a true monitored natural attenuation alternative is not included.

The flawed FS alternatives also ignore the institutional controls already implemented by Winnebago County. Instead, Weston employs some slight of hand by defining the current "plume" by the extent of VOCs detections rather than the extent of MCLs exceedances and then comparing the area of the detections "plume" to the residential and commercial entities in the "vicinity" that are not, for whatever reason, connected to the municipal water supply. All this while at the same time unequivocally agreeing that the constituents of concern (PCE and TCE) are declining or stable throughout the extent of the original plume of contamination.

Weston completely ignores the fact that the recent groundwater water quality data suggests that the plume is bifurcating. This is evidence that the sources have been adequately mitigated and are no longer contributing contaminants to the groundwater, and that the plume is steadily and progressively attenuating.

B. Risk Assessment – There Is No Evidence of Risk to Human Health or the Environment

All of the risk assessment data, calculations and conclusions discussed in the FS result in the same conclusion. The site does not pose any unacceptable risk, period. This is true even though the 2001 risk assessment assumed an ingestion pathway for groundwater despite the extension of municipal water, which was completed in September 2000.

Perhaps recognizing the disconnect between the risk assessment results and the $8.5 million investigation junket proposed in the selective alternative, USEPA stated at the August 19, 2003, public meeting and information availability session that it had "revised" the risk numbers, and now the risk was in the unacceptable range. As discussed below in the detailed comments, and in the comments submitted on behalf of Ecolab, the risk assessment is highly flawed and inaccurate. To now rely upon a very flawed risk assessment as a basis for justifying an extravagant investigation is both a disservice to USEPA and the residents of Roscoe and an inappropriate use of limited Fund resources.

When the risk numbers are calculated using correct data and appropriate methods (including the elimination of boot-strapped "site-related" ubiquitous petroleum compounds), the inescapable conclusion is that the risk numbers are well within the acceptable range and the site poses no risk to human health or the environment.

In fact if the USEPA were to apply the Hazard Ranking System using the most recent data, the site would not score high enough to be considered for inclusion on the National Priority List and would meet the CERCLA "no further action" or NFA criteria.

DETAILED COMMENTS

A. Groundwater Data – The Constituents of Concern Meet or Will Meet the MCLs

#1. Natural attenuation is occurring with all contaminants declining to below standards in all but two instances, as discussed above. One (MW-03 at 7.2J ppb TCE) is an

estimated, not quantified, value and is, nonetheless, estimated to be below the MCL as of late 2003 (i.e., now). The other (MW-103S at 5.9 ppb PCE) is estimated to be below the MCL by mid-2005 and is also almost a mile from the nearest residence at Evergreen Manor. FS Table 5-5, GD §C.4, p.7

#2. In the early 1990s, TCE concentrations detected in residential and monitoring wells at Evergreen Manor exceeded the MCLs. FS Fig. 5-3. As illustrated by FS Figure 1-10, TCE concentrations are declining or stable and the plume is shrinking. FS Table 5-5. This meets the criteria for using natural attenuation as the selected alternative, and shows groundwater is of no risk to receptors (even assuming someone could ingest the groundwater now). {FS §1.5.2, p.29 ¶3}

#3. Waste Management strongly agrees that all evidence of shrinking plume and daughter products detected support the conclusion biodegradation is occurring. FS §1.5.2, p.31 ¶2. The evidence of natural attenuation combined with the evidence that the constituents of concern meet, or soon will meet, the MCLs justifies a "No Action" response, or at most, some limited additional monitoring for a period of time to provide further verification of the effectiveness of the natural attenuation remedy. For example, as a regional comparison, the SE Rockford study area is three square miles and the agency is only requiring an additional nine monitoring wells to verify the downward trends in historical data to support natural attenuation.

#4. Additional hydrogeologic characterization is not necessary as stated at FS §1.5.4, p.33. The Warner Electric study adequately evaluated the hydrogeology that would be applicable to the Evergreen Manor study area since it is adjacent to the east. The regional studies by Wehrmann (1983 and 1984) show very consistent geology and hydrogeology in the broader region surrounding the entire study area. Wehrmann, Allen H., An Investigation of a Volatile Organic Chemical Plume in Northern Winnebago County, Illinois, State Water Survey Contract Report 346, Project No. 83/4001 (August 1984). This appears to be a simple hydrogeologic environment of unconfined sand and gravel with groundwater flowing generally along topography at 90 degrees toward the river.

#5. There is no vertical gradient in groundwater as seen in the water levels being similar in shallow and deep nested monitoring wells. {FS §1.5.4, p.33} Concern is expressed at GD §5.2, p.2, over a purported lack of knowledge of the vertical extent of the VOC contamination from 1990-1993 – although data from wells up to 100 feet is available. Similarly, if VOCs migrate to the river and have never been found to contaminate river water or sediment, knowing the vertical extent is not relevant. The assertion that there may be underflow beneath the river completely ignores the fact that the Rock River is a regional groundwater discharge feature. As Ms. Cibulskis pointed out in her presentation to the community, groundwater from the other side of the river also flows toward and discharges to the river. Therefore, it is a mathematical impossibility for there to be underflow beneath the river.

#6. There is simply no evidence of DNAPL and additional DNAPL investigation is not justified. {FS §1.5.4, p.33} None of the conditions to support DNAPL as a suspected source exist historically or presently in the northeast industrial area of the Evergreen Manor study area according to EPA guidance and the scientific literature. According to Feenstra, et al. (1991), soil chemistry indicative of DNAPL would be in the thousands of ppm rather than the very low ppb results found in the alleged source areas. According to EPA's Guidance on DNAPL Site Evaluation (EPA/R-93-022) groundwater typically shows concentrations in presence of DNAPL of 1 to 100 ppm (or 1 to 10% of a VOC's solubility) instead of the low ppb levels seen in the study area presently and historically. Also there would be visible staining of DNAPL from droplets within the pore space of the soil samples, very high soil vapor concentrations in the ppm range, and a much more steady concentration over time than has been observed at the site. *See also* Evaluation of Likelihood of DNAPL Presence at NPL Sites, National Results (EPA/R-93-073 September 1993). An evaluation of the Warner Electric data shows these types of concentrations in groundwater (in the ppm range) and their source was mostly in the form of dissolved solvent in the wastewater treatment pond, apparently due to their use of solvent products within the plant. If DNAPL has not been found in the Warner Electric plume, then there exists no evidence to even remotely suggest that it would exist in the Evergreen Manor plume or source area.

#7. Groundwater flow direction is not uncertain as suggested at FS §1.5.5, p.36 •1. This is a classic homogeneous and isotropic groundwater flow system, in which the flow is uniform and predictable; it does not warrant over-analysis as suggested by Weston's proposed plan. The primary direction of the plume has remained the same since 1991. The wells on Balsa (southeast portion of the subdivision) show the plume has not deviated to the southeast from its primary flow direction route.

#8. Additional depth specific sampling near the industrial park is not needed as stated at FS §1.5.5, p.36 •2. This was already undertaken, especially near Waste Management's former transfer station, with CPT11 which showed no significant detections of the constituents of concern. Also, depth specific sampling with CPT was conducted along McMurry Road and no constituents of concern were found. Any additional investigative work in this vein would be redundant, irrelevant and wasteful of Fund resources since no constituents of concern were found shallow or deep in these locations.

#9. There is no vapor migration pathway that is correlated with prior groundwater contamination. {FS §1.5.4, p.33} The prior groundwater contamination was too low to contribute to soil gas. None of the soil gas concentrations above the plume show significant detections, which demonstrates a lack of correlation between groundwater contamination and soil gas results. {FS §1.5.2, p.23} The highest PCE and TCE concentrations in soil gas have no connection with groundwater contamination. {FS §1.5.4, p.35 •2} The FS states that contaminants may be at the water table surface. This would have to be due to a spill at the homeowner's area – *see* FS §1.5.5, p.37 •2. A vapor study at Evergreen Manor is unnecessary due to the extremely low detections of VOCs. The mass of VOC at the water table, available for

vapor diffusion into the soil column, is very low. A plume moving from a source that is two miles upgradient would attenuate from the water table down – the concentrations of VOCs at the water table will decrease as a function of distance from the source, because of the diluting effects of recharge and infiltration. It is very likely that what minimal VOCs exist at the water table are from local sources such as septic fields. Study of septic fields would arguably implicate the residents in the area as contributors to the contamination as USEPA has documented usage of VOC-containing household products in the Evergreen Manor area.

#10. Investigation of septic systems in the study area, as set forth at FS §1.5.5, p.37 •3 and GD §7.2.2, p. 11 •3, is unnecessary if the objective is to filter out background impacts relative to the alleged vapor intrusion pathway. EPA has studies that show VOCs are commonly used in septic tank maintenance chemicals. Any prior contamination from household water discharged to the septic systems would not result in high enough levels to cause soil vapor contamination due to the anaerobic digestion of a septic system, which would be a good environment to dechlorinate and biodegrade the constituents of concern completely or to much lower levels than observed in historic groundwater data.

#11. It has previously been stated that there was no evidence of prior or existing surface water or sediment contamination. These concentrations have since declined to below drinking water standards. Based on the current groundwater quality, there is no future concern about the surface water pathway. {FS §2.1.1.1, p.8}

#12. While at the same time stating that there is no reduction of present and future risks at the site, the FS concludes the remedy (natural attenuation) "is effective in the short-term as the site does not pose an imminent threat to human health of the environment." The model used and kinetics shown in the FS also show a future continuing decline in VOCs. This obviously shows that natural attenuation is also effective in the long term. The No Action alternative, or a true monitored natural attenuation alternative, is therefore effective in both the short and long term and is a valid alternative. {FS §3.3.1, p.7}

#13. Contrary to the statement at FS §4.2.1.2, p.9, there are institutional controls to prevent people from using groundwater. As noted elsewhere in the FS, Winnebago County has put institutional controls in place. *See* FS §4.2.1.2, p.12. The limited resources of the Fund would be better spent working with Winnebago County to enforce the ordinance and encourage those residences in the area that still have wells, if any, to abandon them.

#14. The additional investigation and monitoring costs proposed at FS §4.2.3.2, p.39, are extremely high, particularly in light of the large amount of data already available for the site. The additional shallow groundwater monitoring is not justified, especially since there is no exposure pathway by groundwater. The very shallow groundwater that is desired to be monitored separately also has been shown to be clean from the CPT results. Remedial Investigation (RI), March 2002. The site can be adequately monitored with existing sample points, especially since there are no groundwater exposure pathways.

#15. Concern is expressed at GD §6.4, p.8, about sharp difference in TCE concentrations at two adjacent residences and concerns about actual groundwater trends. This is irrelevant since there is no longer an exposure pathway from groundwater to the residences. The overall trend at wells historically sampled and for newly sampled CPT every 8 feet in depth show very low contaminants and no trend in CPT data as to whether VOCs are shallow or deep. If VOCs are found in CPT data, they appear to be evenly dispersed from shallow to deep, but below MCLs. RI, March 2000.

#16. Waste Management agrees with the statement at GD §6.6, p.15, concluding that there are no currently active source areas. The lack of an ongoing source conflicts with the FS' inappropriate failure to include a true monitored natural attenuation alternative on the basis of uncertainty of the sources.

#17. It is recommended at GD §7.2.2, p. 11, that 50 soil gas and shallow groundwater samples be collected within Evergreen Manor and that 25 homes be targeted for long-term vapor monitoring. This is a "shot gun" approach and no rationale can be provided for such intensified sampling. If groundwater quality is below MCLs, there is no exposure path via ingestion or vapor intrusion. Trends have been consistently downward and even predicted in the models. CPT data do not indicate a tendency for shallow groundwater to have greater concentrations than intermediate or deeper depths. In the SE Rockford study, residences only were sampled when groundwater and soil vapor were at very high levels (well above MCLs) and the residences were adjacent to the sources (industries). At the Acme Solvent Reclaiming study area, homes were deemed of no risk to air pathways since they were more than 1/4 mile from the source – a much shorter distance that the one to two miles for Evergreen Manor. The groundwater contamination concentrations are very low at the alleged sources for Evergreen Manor and no MCL exceedances were detected at or near the water table. Further, no vapor was found above levels of concern in samples taken in 1992 (when, in some monitoring wells, VOCs were above MCLs). Therefore the logic of the proposed residential vapor sampling is not consistent with actions taken at existing NPL sites in the region.

#18. It is recommended at GD §7.2.2, p.11 •2, that soil sampling be conducted to determine if there are homeowner-related spills. How would such spills be determined and what would the result be? Groundwater quality already does not correlate well with any of the past and recent soil gas data. None of the soil gas data has been shown to be useful in this project except to show that there is no problem or issue with DNAPL. Would the homeowners be considered PRPs for the site and responsible for the sampling costs incurred?

B. Risk Assessment – There Is No Evidence of Risk to Human Health or the Environment

#19. Why is it assumed that residents use on-site groundwater when municipal water lines were extended between September 1999 and September 2000? {FS §2.1.1.1, p.4 ¶3} Had Waste Management known in 1998 that the USEPA's contractor would persist with this illogical line of reasoning its contribution to the installation of the municipal water system would have

been under different terms. At best this is an example of circular logic. At worst it is a demonstration of bad faith or incompetence on the part of Weston.

#20. VOCs detected in indoor air samples within the extent of the historic groundwater contamination plume are no higher than the concentrations found in the average urban American home and can be attributed to common household products. At the SE Rockford site, EPA concluded the VOCs detected in residential basements over a VOC-contaminated groundwater source were from common household products and were no higher than the concentrations found in the average urban American home. Illinois Environmental Protection Agency, Fact Sheet, Source Area 7, Southeast Rockford Groundwater Contamination Superfund Project (February 1995). Notably, at SE Rockford, the VOCs in the groundwater were much higher in concentration than for the Evergreen Manor plume. The groundwater concentrations at SE Rockford and Acme Solvent Reclaiming were up 400 to 970 ppm for chlorinated solvents. These are concentrations over four orders of magnitude higher than the historical high concentrations found anywhere at the Evergreen Manor study area. Additionally, at the nearby Warner Electric site, indoor air quality samples are being taken only in those portions of the plume where groundwater contamination concentrations at the water table exceed threshold criteria. And, at that, the approved investigation at the Warner Electric site is a phased, reasonable and representative approach. In contrast, at the Evergreen Manor site, the threshold criteria are not exceeded in the areas where Weston proposes to conduct indoor air quality sampling.

#21. The FS inappropriately goes from the "No Action" alternative to an extravagant $8.5 million supposed monitored natural attenuation remedy. It fails to include a true monitored natural attenuation alternative that has an appropriate monitoring scope. The "No Action" alternative was rejected on the basis it would not be effective in protecting human health and the environment or reducing the toxicity, mobility, or volume of the contaminants of concern within various environmental media at the site. The only evidence cited for this asserted lack of effectiveness is the detection of VOCs vapors in a few homes. However, there are no soil vapor detections near the homes that had VOCs detects in the indoor air samples. The groundwater meets health-based standards and there is no exposure pathway to the residences. {FS §3.3.1, p.7}

#22. The risk assessment is flawed because it assumes an exposure pathway that no longer exists. {Risk Assessment (RA) §9.3}

#23. The risk assessment is flawed, even assuming the pathway still exists, because it used incorrect PCE data. The risk assessment used 7.9 ppb PCE for an input value. There is no site data to support the use of this value. The highest flagged data point was 7.2J ppb PCE from MW-03. The 'J' flag means this is an estimated concentration. The highest non-flagged data point was 4.7 ppb PCE at MW-01A, which is below the MCL. A single high value to represent an entire area is inappropriate for the purposes of quantitatively estimating risk and selecting a final remedy. *See also* Comments of CRA on behalf of Ecolab.

#24. The risk assessment is flawed, even assuming the pathway still exists, because it used the unsupported draft revised cancer slope factors for PCE and TCE. In the absence of a final approved slope factor for PCE, the value recommended by the USEPA National Center for Exposure Assessment should be used. The draft, unsubstantiated value used in the revised risk calculations should not have been used for quantitatively estimating site risks. The draft slope factor for TCE has, unlike PCE, been released for public review – and found wanting. USEPA's Science Advisory Board sent the proposed draft back for further revisions due to problems with the underlying science used in its development. USEPA Region 8 has rejected the proposed draft. It was inappropriate for Weston to rely upon these draft slope factors to determine the recently recalculated risk numbers.

#25. The risk assessment is flawed because it included ubiquitous household compounds that are not groundwater constituents of concern. Weston incorrectly assumed that most of the chemicals detected in the indoor air samples were present due to residual groundwater compounds, without considering their prevalent use and presence in household products and materials such as paint, cleansers, gasoline, construction materials, etc. The Air Sampling study measured these background indoor air constituents without acknowledging they were background. Collecting additional indoor air samples would serve no further prupose and would merely confirm that the levels detected in site homes are entirely consistent with other homes throughout the country.

#26. The FS is flawed because it is founded on a combination of faulty and overly conservative assumptions as described above and in CRA's comments on behalf of Ecolab. Had the alternatives discussed in the FS been tied into a valid risk or exposure method, a true monitored natural attenuation alternative or "No Action" would have been the obvious alternative.

#27. As the last data collection effort occurred in April 2002, there is no justifiable explanation for the fact that the FS and related reports contradict USEPA's statements at the February 18, 2003, public meeting that "No Action" was the recommended course of action.

CONCLUSION

Waste Management appreciates USEPA's courtesies in providing information and allowing additional time for Waste Management to complete its comments. Waste Management urges USEPA to carefully consider these comments. Waste Management strongly believes it would be imprudent to waste precious Fund resources to further investigate a site that no longer presents an unacceptable risk. And the Agency should not assume that Waste Management will be willing to contribute to further investigation of this site based on the biased and gerrymandered risk analysis presented by Weston.

USEPA did the right thing in 1999 in negotiating the AOC for funding the extension of municipal water to residents within (and beyond) the groundwater contamination plume. Waste

Management and the other AOC parties funded that water extension – despite strong evidence to dispute any liability for the site – because they recognized that the best thing to do was to eliminate the exposure pathway. By keeping contaminated groundwater out of people's homes – no matter what the source of the original contamination – USEPA eliminated the risk posed by the VOCs contamination in the aquifer.

The most appropriate and cost-effective remedy long and short-term is limited additional monitoring to confirm the continued effectiveness of natural attenuation. Specifically, the most reasonable, cost-effective and protective alternative would be limited annual monitoring at a select number of wells to document further declining trends.

Thank you for your consideration of these comments. If you have any questions or need additional information, please contact the undersigned.

Very truly yours,

QUARLES & BRADY LLP

Rachel A. Schneider

RS2:lg1

cc: John Matson, Asst. Reg. Counsel, USEPA Region 5 (via US mail)
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